Slate8

Progress Report1

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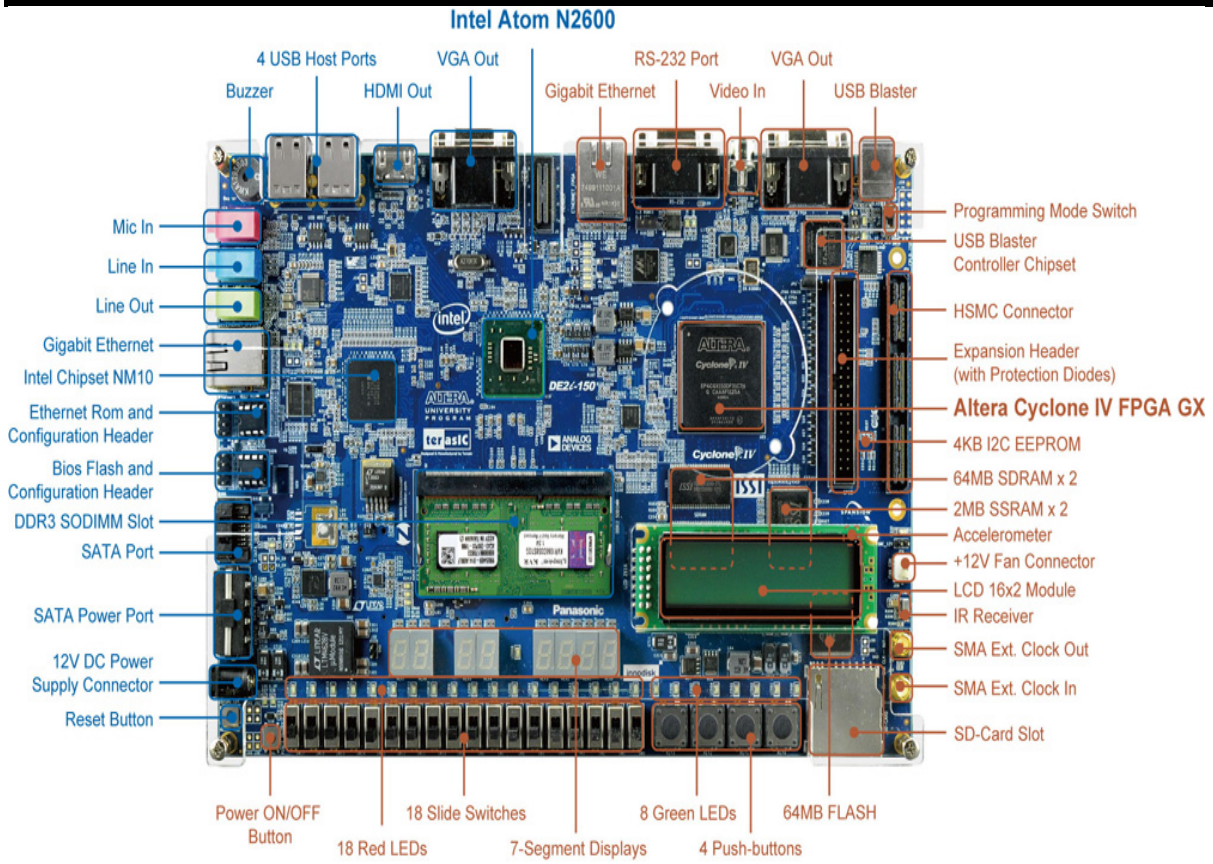
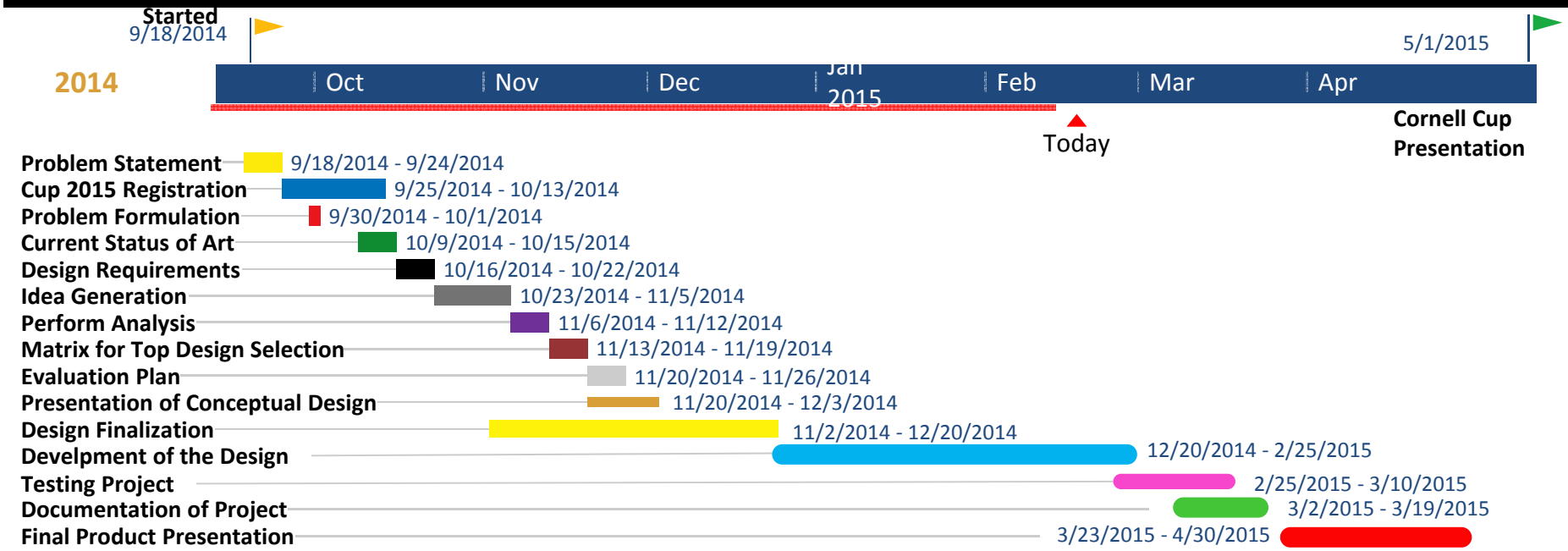
Final Design



The final design will use the intel de2i-150 board. The tablet's size will be roughly the size of this board. A usb camera, micro SD storage, external battery, display screen, and control buttons.

Timelines and milestones



Timelines and milestones

Started
9/18/2014

5/1/2015

2015

Cornell Cup Presentation

Progress
02/04/2015 – 02/18/15

intel de2i-150 board

Usb camera

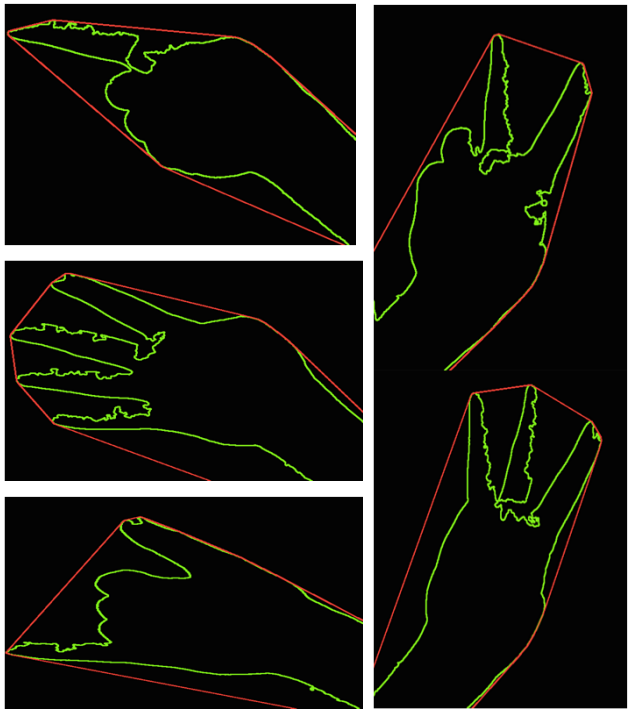
Lcd display

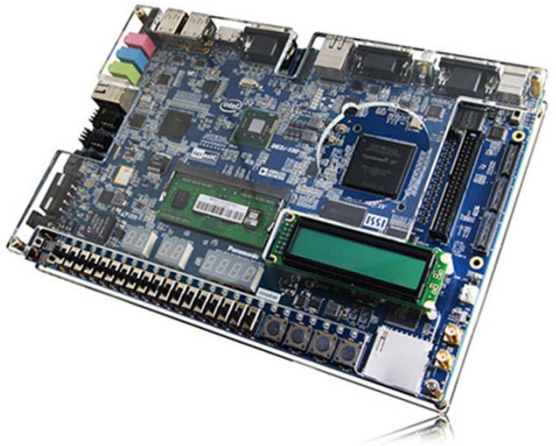
Yocto Linux OS

Highlights of the Period

- What went well over the last period
  - Make use of OpenCV and Python on Laptop
  - Recognize hand and fingers
  - Created a Cascade using Cascade LBP to detect plane
  - To check the training method
- Key findings and results
  - Learned how to train our system (Haar method)
  - Learned that the Di2-150 Atom board accommodates Python using Bitbake tool

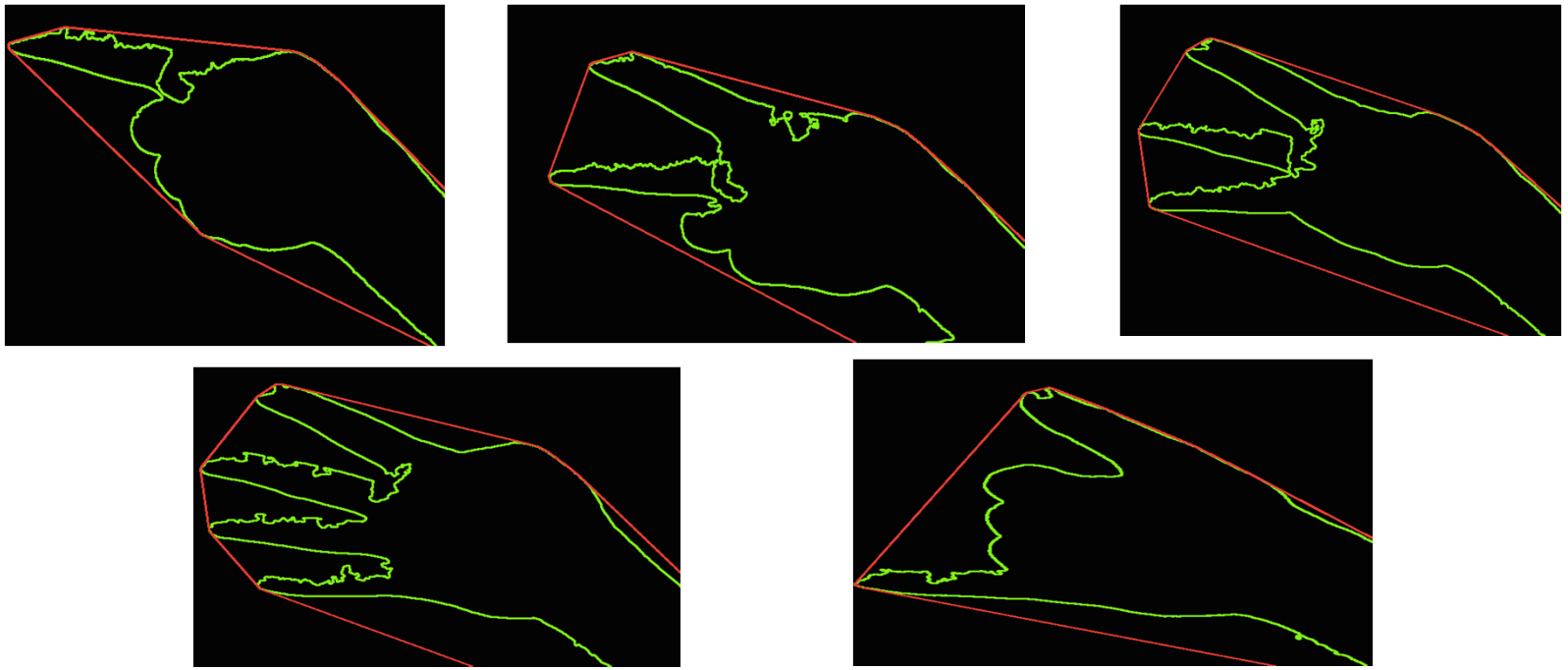
Highlights of the Period





Highlights of the Period

Tested and Implemented the preliminary of the Idea

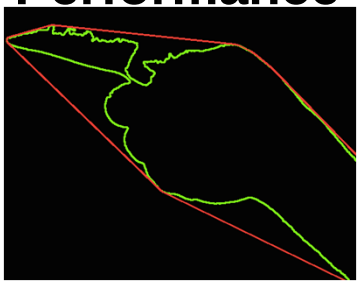


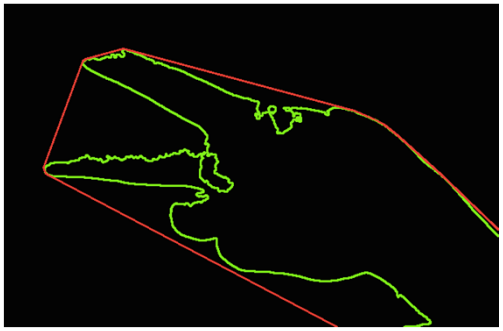
Low Lights

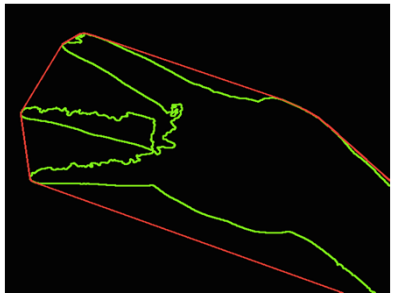
Issue installing Computer Vision Library on Intel Atom Board

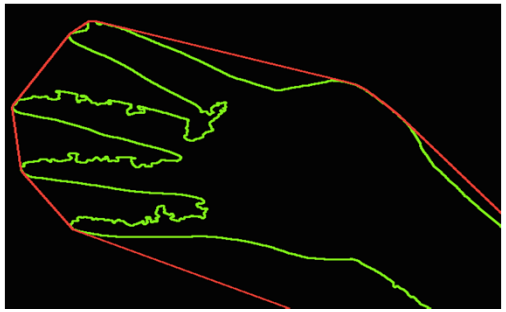
Haar- Classifier : Waiting for Sign Letters database

Poor Performance









Risk Mitigation Measure

Rank	Type of Risk	Approach
1.	Installing Computer Vision Library on Intel Atom Board	Study of Yocot Linux
2.	Installing Bitbake build tool for embedded linux like Yocto linux	Familiarity with Bit bake tool for embedded linux
3.	Training the Haar Classifier	1:2 ratio for Positive and Negative Image
4.	Computation Time	Focus on Algorithm and Hardware part to subsidize computation time
5	Accuracy	Focus on testing the Gesture Library and introduce wide variance

Recommendation and next steps:

As of now, our product can only:

Detect hands and contours

Detect fingers and gestures

Is implemented in a computer

In the Future:

Install the openCV and bitbake tool on the board

Connect the USB Camera to the board

Access the sign letters database from Purdue University Library

Train the Haar Classifier

Questions

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